

Abstract

A method is described for the direct, exponential amplification and sequencing ("DEXAS") of a DNA molecule from a complex mixture of nucleic acids, wherein truncated DNA molecules as well as DNA molecules of full length are synthesized simultaneously and exponentially between two positions on the said DNA molecule, which initially contains a DNA molecule in a thermocycling reaction, a first primer, a second primer, a reaction buffer, a thermostable DNA polymerase, a thermostable pyrophosphatase (optionally), deoxynucleotides or derivatives thereof and a dideoxynucleotide or derivatives thereof.